

Transportation Management Plan

This Transportation Management Plan (TMP) describes GSFC proposals to manage its transportation patterns in a safe, efficient, cost-effective, flexible, and environmentally responsible manner. In regional terms, the TMP helps GSFC reduce its contribution to area traffic congestion, and in so doing helps reduce air pollution to conform to standards defined in the federal Clean Air Act. The National Capital Planning Commission requires that federal facilities like GSFC develop a TMP in concert with Master Plans and Environmental Assessments to ensure full understanding of proposals. The National Capital Planning Commission also establishes guidelines for TMP content.

This document outlines a process of considering and choosing initiatives for GSFC’s transportation system. It is a framework for adapting to changing transportation needs, and specifies GSFC commitments to implement or augment TMP initiatives. It summarizes this process and records the Center's intent for all stakeholders (external community, workforce, partners, and mission customers) to understand.

In its Draft Facilities Master Plan, GSFC proposes designating a portion of its land for public/private partnership activities: creating a Partnering and Outreach Zone during the latter

portion of the plan’s twenty-years. As GSFC’s core mission activities are gradually relocated, fences will be re-configured so that this Partnering and Outreach Zone is outside GSFC security. Guidelines for managing this area are presently in development, and implementation will for years to come be contingent upon strategic, legal, and economic uncertainties. The initiatives proposed in this TMP apply to the entire site, whether or not they are within GSFC's security perimeter. As Goddard refines operational plans for the Partnering and Outreach Zone in consultation with community authorities, it may identify additional restrictions for this special area.

5.1 Process

The TMP presents the process to identify the major transportation issues and develop feasible TMP strategies and measures to meet the needs and demands of GSFC. The elements of this process can be revisited and reexamined as development of the Master Plan progresses into the future. Existing conditions can be updated to initiate the process and to determine if any additional TMP measures are needed to address those updated existing conditions.

This process consists of the following components:

- Collect **data** to understand current transportation patterns
- Perform **analysis** to assess opportunities and constraints
- Develop and select TMP **strategies** to expand opportunities and reduce constraints
- Identify **features** of the Master Plan with consequences for area travel patterns
- Project **benefits** of the TMP resulting from Master Plan implementation
- Assess **results** of the TMP over the course of the Master Plan
- Identify specific **commitments** GSFC is making to implement its TMP

Depending on the actual results of the proposed measures, the TMP measures can be modified, eliminated, or expanded to meet address changing transportation issues. The TMP is geared to provide for flexibility to address the changing needs of the GSFC population. Issues are often sorted into three categories: physical, operational/management-related, or cultural. These categories overlap somewhat, but are useful to clarify the document.

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5.2 Data

Data was collected to understand current transportation patterns. It included compiling area roadway traffic counts, identifying existing roadway network characteristics, researching current transportation management programs, inventorying parking supply and demand, and understanding workforce attitudes through a TMP focus group. Data collection was targeted to anticipate the Master Plan implications for GSFC transportation patterns. This section highlights key constraints of the existing transportation system that hinder reducing single-occupancy automobile commuting.

Key physical characteristics:

- Employee residences are widely dispersed. A Zip Code survey reflects that most employees commute from suburban residences.
- HOV-lane facilities or park-and-ride facilities are absent from area commuting corridors that serve GSFC (including Interstate 95/495, and the Baltimore-Washington Parkway).
- Soil Conservation Service Road separates the site into separate work areas. Employee travel across the site often exceeds normal walking distances. Building 33 and Building 26, for instance, are well over a mile apart.
- 7,392 parking spaces serve the current employee population

of 7,600 employees. Parking lots are visible from almost every open space.

- Five security gates admit employees and visitors to GSFC. Vehicles traverse a loose suburban grid of two to four-lane streets within two separate security perimeters.
- Onsite amenities (dining, banking, retail, child-care, etc.) are dispersed across the site. Sidewalks are present in the areas of more concentrated pedestrian activity. Pedestrian and vehicular patterns frequently conflict. There are few facilities for cyclists.

Key operational/management-related characteristics:

- Transportation coordination has traditionally been a part-time role at Goddard.
- In accordance with security requirements, two public bus stops (for MetroBus routes T15, T16, and T17 and Prince George’s County “The Bus”) are located just outside GSFC employee gates. These bus stops are up to 2/3 miles from major GSFC facilities.
- In concert with this plan, GSFC instituted a pilot internal shuttle service during 2000. The shuttle service connects major buildings and public bus stops every 30 minutes during workdays. The service is lightly used.
- Commuter rail service, including Metro Rail and MARC,

stops approximately three miles from the site. Connecting bus service is available but infrequent, time-consuming, and limited in capacity.

- GSFC and many onsite contract employers sponsor transportation programs aimed at reducing the share of employees who drive to work alone, including flexible working hours, alternate work schedules, and telecommuting. In concert with this plan, GSFC instituted a transit subsidy for civil service employees using bus, rail, or vanpools in 2000. The program is lightly used.

Key cultural characteristics:

- 90% of GSFC employees drive alone to work, most of the rest carpool. Peak parking demand is approximately 0.81 spaces per employee. Driving alone to work is deeply ingrained in GSFC culture. Most employees live in suburbs where almost every adult has an automobile.
- Those who choose to drive alone often cite the convenience of running errands during lunch or while commuting. They routinely cite time as the key factor in their choice; the lower cost of some alternatives rarely influences their choice. Driving alone is so prevalent that few employees seriously consider alternatives.

- Ample open land has generally left onsite parking unconstrained.

5.3 Analysis

Analysis was performed to assess opportunities and constraints, and to predict the effectiveness of potential transportation management strategies. Several exercises were performed to understand commuting constraints within the existing GSFC transportation system, including benchmarking with comparable workplaces, conducting information sessions with GSFC representatives, drawing informed conclusions from Focus Groups, and referencing professional standards.

Key analysis of the physical characteristics:

- It is difficult to increase ridesharing because employee residences are so dispersed.
- The lack of High Occupancy Vehicle Lanes or park-and-ride facilities serving GSFC commuters means that there are few timesaving incentives to rideshare. (Such facilities have promoted carpooling in the I-95 and I-66 corridors in Virginia and I-270 in Montgomery County).
- Many trips within the site are difficult without a car. Walking can be time-consuming given distances, topography, weather

considerations, and the separation of the site into two separate gated security perimeters.

Key analysis of the operational/management-related characteristics:

- Increasing the attention GSFC pays to transportation management would likely improve program effectiveness, and help some employees to consider alternatives to driving alone to work.
- Time considerations, limited interconnections, and modest capacities limit mass transit use in spite of recent GSFC actions (onsite shuttle pilot and transit subsidy programs). Further GSFC action is unlikely to improve mass transit without significant external change.
- Though transportation management programs help reduce the share of employees who drive to work alone, there are many opportunities to improve these programs.

Key analysis of cultural characteristics:

- Changing the GSFC commuter culture is possible given an effective transportation management program. Suburban residential patterns reinforce the status quo, limiting and slowing change.
- Offering employees more and better commuting choices (and raising employee awareness of their choices) is likely

to be more successful than disincentives and mandates in changing cultural patterns.

- The Center's history of generally unconstrained parking does not encourage employees to consider alternative commuting options.

5.4 Strategy Development and Selection

Several TMP strategies were developed and comparatively assessed to identify the most effective. The process included evaluating ways to address transportation system bottlenecks, determining the associated costs and benefits, and deciding which strategies are most cost-effective in reducing the share of commuters who drive alone. The process involved close coordination with GSFC management and external transportation authorities.

Key physical strategies:

- Target a portion of employees for ridesharing based on concentrations of their residences.
- Coordinate with area planning agencies to promote the need for public ridesharing facilities.
- Consolidate the site to promote a more pedestrian-friendly environment.

Key operational or management-related strategies:

- Expand the transportation coordination role to more effectively and systematically manage commuter patterns.
- Continue current transportation management strategies (including transit subsidy, onsite shuttle, flexible working hours, alternate work schedules, etc.) and expand where appropriate.
- Coordinate with transit agencies to improve service and identify the potential for additional services.
- Coordinate with management and employees to improve participation in administrative transportation demand management programs.

Key cultural strategies:

- Improve the quality and availability of on-site amenities to allow employees the option of running errands without a single occupancy automobile.
- Increase commuting choices and incentives, and raise employee awareness of transportation management programs.
- Reduce the parking ratio to 0.9 spaces per employee associated with near-term facilities changes, and further reduce parking ratio over time.

5.5 Features

This section identifies **features** of the plan with consequences for area travel patterns.

Short-term features:

- Realign Soil Conservation Road, enabling GSFC to consolidate and improve pedestrian access among activities.
- Reduce the ratio of parking spaces per employee.
- Locate shared work resources (library, meeting rooms, training spaces, shared services, etc.) and onsite amenities (food service, banking, child care, fitness, health, retail, etc.) to reduce employee dependence on automobiles during the workday.
- Improve and expand onsite amenities.
- Integrate bicycle facilities with the Prince George's County Bicycle Plan, especially along Greenbelt Road and Soil Conservation Service Road but also within the site.
- Expand the transportation coordination role to create, promote, and manage transportation management programs like Alternative Work Schedule, telecommuting, ridesharing, Guaranteed Ride Home, and Donor Day programs.
- Continue current transportation management strategies (including transit subsidy, onsite shuttle, flexible working hours, alternate work schedules, etc.) and expand where

appropriate.

- Coordinate with public agencies in the planning of additional public transportation opportunities.
- Coordinate with neighboring employers where combined usage of services would improve the economic viability of transportation programs.

Long-term TMP Features:

- Coordinate with transit agencies to expand and improve bus service to GSFC.
- Coordinate with the public agencies in planning facilities that promote ridesharing (including High Occupancy Vehicle lanes and park-and-ride facilities).
- Evaluate new opportunities to promote parking demand reduction.
- Investigate financial and other incentives for employees who use vanpools, carpools, and mass transit.
- Investigate the implementation of a shuttle bus to the City of Greenbelt and/or direct shuttle bus to serve GSFC and nearby Metro rail stations.
- Expand transit subsidies to encourage shift of employee mode choice from driving to work alone to transit.
- Continue to reduce employee-parking ratio in conjunction with the future changes.

5.6 Benefits

This section projects *benefits* of the TMP during Master Plan implementation. Successful implementation of the features above helps improve the existing transportation system and reduces the need for employees to drive to work alone. Key benefits projected:

- Re-configuring the site promotes a more pedestrian- and cyclist-friendly environment.
- Improving and expanding shared work resources and onsite amenities helps reduce employees’ need to drive during the workday.
- Better transportation management, helping GSFC research, implement, promote, and monitor existing and new initiatives.
- Better advocacy for and coordination with of public transit opportunities.
- Working with neighboring employers improves the economic viability of new opportunities that reduce automobile commuting.

5.7 Results

This section projects likely results of the TMP over the course of implementing GSFC’s Master Plan:

- A shift from automotive to pedestrian and cyclist travel onsite results in a safer, more attractive workplace.
- Fewer parking spaces needed, resulting in the retention of more woodland.
- Reducing parking ratios, results in closer and eventual compliance with National Capital Planning Commission parking guidelines for this area.
- Gradual shift in employee culture to accept commuting alternatives, results in less roadway congestion and air pollution.

5.8 Parking Ratio Implications and Near-Term GSFC Commitments

The National Capital Planning Commission’s *Comprehensive Plan* sets parking requirements for federal agencies in the National Capital area to manage transportation patterns, congestion, and air pollution. Their guidelines establish a goal of reducing employee parking to 0.67 spaces per employee (2 spaces for every 3 employees). GSFC provides 7,392

employee parking spaces, or 0.97 spaces per employee for its current 7,600 employees. The existing parking ratio results from many circumstances encouraging employees to drive alone to work. GSFC’s near-term commitments are as follows.

Initiative to reduce parking supply

- As part of major facilities projects, provide parking only as required to lower employee parking ratios to 0.9 in each neighborhood.

Rationale:

This initiative would substantially reduce employee parking as part of implementing GSFC’s Master Plan. The plan calls for adding most new facilities in the heart of the site, where current ratios exceed 0.9. As a result, some new facilities would be implemented in each neighborhood with few or no new parking spaces, better utilizing the current parking resource as employees are added in a neighborhood. At the same time, the availability of parking within a short walk of the workplace would be maintained. Costs of this initiative are a routine part of the budget for major facilities construction. Overall, reducing parking will save money.

Initiatives with defined reductions to peak parking demand:

- Use mass transit to the fullest extent possible. Set a goal of increasing transit usage from 2.2% to 2.8%.

Rationale: The best opportunity to encourage employees to use mass transit is along transit corridors to the west and south. A portion of the 46% of GSFC employees who live near or along such corridors are the most likely candidates for increased transit usage. Current transit service capacity constrains this opportunity, however. Based on professional experience, an increase of 0.6% is achievable. The cost of this initiative is included in expanding GSFC’s transportation coordination role.

- Expand telecommuting opportunities. Set a goal of increasing average telecommuting usage from 1.1% to 1.5%.

Rationale: Telecommuting is popular with many employees: it expands individual employee choice and reduces commuting time. GSFC has adopted a telecommuting program, and some employees participate now. This program it is not compatible with some activities that can only be accomplished or managed when performed onsite, and participation varies

across the workweek, reducing the effect on peak parking demand. In the long term, telecommuting may greatly reduce peak parking demand, but near-term reductions are projected at 0.4%. The costs associated with this initiative are evaluated and assumed by GSFC management on a case-by-case basis.

- Expand ride-matching opportunities. Set a near-term goal of increasing ridesharing from 8.0% to 8.5%.

Rationale: Given the limitations of mass transit services, ride-sharing is among the few commuting alternatives for many GSFC employees. Partnering with local transit authorities, GSFC currently promotes ridesharing at many employee gatherings, but employee interest is low. Given an expanded transportation coordination role, an increase in participation of 0.5% is achievable. Changes to the transportation network to promote ridesharing, such as High Occupancy Vehicle lanes along area commuting arteries, would increase the effect of this initiative in the long term. The cost of this initiative is included in expanding GSFC’s transportation coordination role, or assumed by the Greater Washington Council of Governments, which funds the Guaranteed Ride Home program.

Other initiatives that may help reduce peak parking demand:

- Expand GSFC’s transportation coordination role.

Rationale: Though no trip reduction is directly associated with this program element, it is important that the Center facilitates research, planning, implementation, and assessment of traffic reduction initiatives. The cost of this initiative is worthwhile because it enables other transportation improvements, and in support of broader objectives.

- Expand and improve campus amenities.

Rationale: This proposal increases the attractiveness of mass transit and ridesharing options as external conditions improve. However, they will not significantly effect near-term employee commuting patterns, partly because of limitations in current mass transit service, and partly because area roadways do not promote ridesharing options. The cost of this initiative is worthwhile in support of broader objectives.

- Increase transit subsidy outlined in the recent Presidential mandate.

Rationale: Federal mandates call for future increases in federal employee transit subsidies from \$65/month to \$100/month to promote increased use of transit. Given available service and an employee culture that values time savings over cost savings, this initiative may contribute modestly to increased transit and vanpool usage, but any reductions are included in the goals for those initiatives cited above. Combined with improved transit service, transit subsidies may facilitate a long-term increase in ride-sharing and transit use. The cost for this initiative is a federal mandate; GSFC is --and will remain-- in compliance with its obligations.

- Educate workforce about the guaranteed ride home program
- Encourage GSFC employees to consider this option when deciding how to get to work.

Rationale: This program ensures that employees who ride-share or use mass transit can get home in case of emergency. Similar to the ridesharing programs, no significant increases are anticipated with additional promotion of these services. The cost of this initiative is included in expanding GSFC's transportation coordination role.

- Research the Donor Day program. Target employees clustered along transit corridors.

Rationale: This program provides incentives to employees who agree not to drive to work (i.e. rideshare, transit, etc.) on a designated day. GEICO successfully implemented an aggressive program at its Chevy Chase headquarters, and the National Institutes of Health is considering a voluntary version in which a monthly lottery would award participants gift certificates or other prizes. The cost of researching this initiative is included in expanding GSFC's transportation coordination role.

- Increase participation in GSFC's Alternate Work Schedule Program.

Rationale: Many federal institutions encourage Alternative Work Schedules because it benefits employee morale, and it can reduce vehicular traffic and peak parking demand. Many GSFC employees participate in this initiative today. This initiative is not compatible with some GSFC work that can only be accomplished onsite, and though it reduces vehicular traffic, it must be carefully coordinated to lower peak parking demand.

The cost of researching this initiative is included in expanding GSFC's transportation coordination role.

- Coordinate with neighbors and transit authorities to promote transportation system improvements.

Rationale: Candidate improvements like pilot shuttle/bus routes, High Occupancy Vehicle Lanes, and other system improvements could serve clusters of GSFC employees. The National Institutes of Health coordinated with the Montgomery County Transit Services office to establish an express bus line from Tysons Corner to Bethesda. This initiative is exploratory, so parking demand reductions cannot be estimated at this time. The cost of this initiative is included in expanding GSFC's transportation coordination role.

Given external transportation patterns, these projections constitute best professional judgments of what GSFC can likely achieve near term. As part of an aggressive transportation management program, and coordinated with implementing its Master Plan, GSFC proposes reduce its employee parking ratio from 0.97 to 0.90. Though, implementing the proposed reduction to 0.90 spaces per employee will be a challenge, it can be accomplished

Parking Ratio Reduction Summary

The following parking ratio reductions are projected:

Program	Participation	Parking Reduction
Mass Transit:	from 2.2% to 2.8%	-.006 spaces/employee
Telecommuting:	from 1.1% to 1.5%	-.004 spaces/employee
Ridesharing:	from 8.0% to 8.5%	-.005 spaces/employee
Near-Term Reductions		-.015 spaces/employee

without risking GSFC mission commitments of becoming more efficient and effective.

The resulting parking space count is depend upon employee population:

	Plan	Ceiling
Employee population	7,750	8,750
Employee parking at current ratio (0.97)	7,518	8,488
Employee parking at proposed ratio (0.90)	6,975	7,875
Parking change from 0.97 to 0.90 ratios	(543)	(613)
Parking change from current 7,392 spaces	(417)	483

In the longer term, GSFC is committed to reducing its employee-parking ratio to the National Capital Planning Commission goal of 0.67 spaces per employee, but significant changes to the area transportation system are required. Since these changes are not in direct GSFC control, the Center leadership will work with transit authorities for these external changes, including transit and ridesharing improvements.